

2023

SURVEYING-I

Full Marks: 100

Time: Three hours

The figures in the margin indicate full marks for the questions.

Answer any five questions.

1. a) Define survey. What are the two major classification of survey? Explain briefly. (4+6=10)
b) Discuss in brief the principle of surveying. (10)
2. a) What are the different sources of errors in chain surveying? Distinguish clearly between cumulative and compensating errors. (4+6=10)
b) What is field book? With suitable sketch, explain the differences between a single line and double line booking. (4+6=10)
3. a) The distance between two stations was measured with a 20m chain and found to be 1500m. The same was measured with a 30m chain and found to be 1476m. If the 20m chain was 5cm too short, what was the error in the 30m chain? (10)
b) What are the instruments used in chain surveying? How is a chain survey executed in the field? (4+6=10)
4. a) Explain the differences between Prismatic compass and a Surveyor's compass. (5+5=10)
b) What is local attraction? How is it detected and eliminated? (4+6=10)
5. a) What are the different types of levelling staff? State the merits and demerits of each. (10)
b) Describe in detail how you would proceed in the field for (i) profile levelling, and (ii) cross-sectioning. (5+5=10)
6. (a) Describe with the help of sketches the characteristics of contours. (10)
(b) What is contour interval? Explain the factors which need to be considered for selecting a suitable contour interval. (4+6=10)